Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of the claims in the application:

Listing of Claims:

1. (currently amended) A thermal management system, comprising:

a heat generating component that comprises a first area and a second area, wherein the first component area generates more heat than the second component area; and

an evaporator thermally coupled to the heat generation component to transfer the heat from the component to a working fluid, wherein the evaporator comprises a plurality of micro-channels to provide fluid paths from the component, wherein the micro-channels have a first channel width and a second channel width, wherein the micro-channels having a first channel width are disposed adjacent to the first component area and the micro-channels having a second channel width are disposed adjacent to the second component area, wherein the first channel width is different from the second channel width,

wherein the evaporator is divided into a top portion and a bottom portion, wherein the working fluid is warmed in the top portion before reaching the bottom portion.

2. (original) The thermal management system of claim 1, further comprising:

a heat exchanger coupled to the evaporator to remove heat from the working fluid; and

a pump coupled to the heat exchanger to transfer the working fluid to the evaporator.

3. (original) The thermal management system of claim 1, further comprising:

a thermal interface material coupled to the component and the evaporator, wherein the thermal interface material reduces a thermal interface resistance between the component and the evaporator.

4. (original) The thermal management system of claim 1, wherein the working fluid comprises water, super critical carbon dioxide, Freon, ammonia, methanol, acetone, ethanol, or heptane.

5. (original) The thermal management system of claim 1, wherein the component is a central processing unit, wherein the first component area is a processor and the second component area is a cache.

6. (original) The thermal management system of claim 1, wherein the first channel width is greater than the second channel width.

7. (original) The thermal management system of claim 1, wherein the working fluid is thermally coupled to the second component area before being thermally coupled to the first component area.

8. (canceled)

9. (original) The thermal management system of claim 1, wherein apertures provide nucleation sites in the plurality of micro-channels.

10. (original) The thermal management system of claim 1, wherein indentations provide nucleation sites in the plurality of micro-channels.

11. (original) The thermal management system of claim 1, wherein a horizontal sintered copper powder layer provide nucleation sites in the plurality of micro-channels.

12. (original) The thermal management system of claim 1, wherein vertical sintered copper powder walls provide nucleation sites in the plurality of micro-channels.

13. (currently amended) A thermal management system, comprising:

means for providing heat transfer in micro-channels of an evaporator that is thermally coupled to component having a first temperature area and a second temperature area, said means divided into a top portion and a bottom portion, wherein a working fluid is warmed in the top portion before reaching the bottom portion; and

means for increasing nucleation site density in the micro-channels.

14. (currently amended) The thermal management system of claim 13, further comprising:

means for transferring ~~a~~ the working fluid from the first temperature area to the second temperature area.

15. (currently amended) The thermal management system of claim 13, comprising:

means for gradually warming ~~a~~ the working fluid.

16. (canceled)
17. (canceled)
18. (canceled)
19. (canceled)
20. (canceled)
21. (canceled)
22. (canceled)
23. (canceled)
24. (canceled)
25. (canceled)

26. (currently amended) A method, comprising:

transferring heat from a heat generating component to an evaporator, wherein the heat generating component has a first temperature area that is not equal to second temperature area, wherein heat is transferred from the first temperature area through a first plurality of flow channels, wherein heat is transferred from the second

temperature area through a second plurality of flow channels, wherein the first plurality of flow channels are wider than the second plurality of flow channels; ~~and~~

warming up a working fluid in a top portion of the evaporator; and

generating vapors through a plurality of nucleation sites.

27. (currently amended) The method of claim 26, further comprising:

warming up ~~a~~ the working fluid over the second temperature area before the working fluid is thermally coupled to the first temperature area.

28. (canceled)

29. (currently amended) The method of claim ~~28~~ 26, further comprising:

transferring the working fluid to ~~the~~ a bottom portion of the evaporator.

30. (currently amended) A silicon die, comprising:

a processor core;

a cache coupled to the processor core;

a first plurality of channels positioned over the processor core to provide a flow path for the heat generated by the processor core; and

a second plurality of channels positioned over the processor cache to provide a flow path for the heat generated by the cache, wherein the first plurality of channels have different widths than the second plurality of channels,

wherein the first plurality of channels and the second plurality of channels are each divided into a top portion and a bottom portion, wherein a working fluid is warmed in the top portion before reaching the bottom portion.

31. (original) The silicon die of claim 30, wherein the widths of the first plurality of channels are greater than the widths of the second plurality of channels.

32. (canceled)

33. (canceled)

34. (canceled)

35. (canceled)